

**Amendments to the Claims:**

This listing of the claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. **(currently amended)** A method for unifying medium access control (MAC) protocols comprising:

grouping MAC nodes having ready packets according to preset parameters to produce a grouping result; and

transmitting packets of the MAC nodes, including unsuccessful packets from unsuccessful MAC nodes or new arrival packets from other MAC nodes, over a physical multi-access medium according to the grouping result and the preset parameters[.],

wherein the preset parameters comprise slot time, access method, and group process scheme.

2. **(currently amended)** The method as claimed in claim 1, wherein the preset parameters further comprise ~~slot time, access method,~~ completeness, memoryless after lost, report grouping result, ~~group process scheme,~~ type of collision anticipation tree expansion (CATE) and type of collision resolution tree expansion (CRTE).

3. **(Original)** The method as claimed in claim 2, wherein the step of grouping the MAC nodes further comprises:

designating nodes having new arrival packets during previous cycle as deferred nodes (DN) when the parameter “access method” is “blocked”.

4. **(Original)** The method as claimed in claim 3, wherein, when the parameter “memoryless after lost” is positive, the step of grouping the MAC nodes further comprises:

calling a CATE routine to split nodes in DN into different groups;

calling a CRTE routine to split unmarked nodes in collided nodes (CN) into different groups; and

associating marked nodes in CN to group numbers that are *g*-level higher than their previous group numbers.

5. **(Original)** The method as claimed in claim 3, wherein, when the parameter “memoryless after lost” is negative, the step of grouping the MAC nodes further comprises :

calling a CATE routine to split unmarked nodes in DN into different groups;

associating marked nodes in DN to group numbers that are *g*-level higher than their previous group;

calling a CRTE routine to split unmarked nodes in collided nodes (CN) into different groups; and

associating marked nodes in CN to group numbers that are  $g$ -level higher than their previous group numbers.

6. **(Original)** The method as claimed in claim 4 or 5, wherein the step of grouping the MAC nodes further comprises:

reporting the grouping results to a control center when the parameter “report grouping result” is positive.

7. **(Original)** The method as claimed in claim 2, wherein the step of transmitting the packets of the MAC nodes further comprises:

designating nodes with new arrival packets during processing group  $\#(g-1)$  to a TX( $g$ ) when the parameter “access method” is “free”; and

designating nodes in group  $\#g$  to the TX( $g$ );

wherein the TX( $g$ ) refers to nodes being processed via a  $g$ th channel.

8. **(Original)** The method as claimed in claim 7, wherein the channel is a time slot in a time division multiple access (TDMA) system, a carrier frequency in a frequency division multiple access (FDMA) system, a code channel in a code division multiple access (CDMA) system, or an antenna when antenna diversity is employed.

9. **(Original)** The method as claimed in claim 7, wherein the step of transmitting the packets of the MAC nodes further comprises:

executing a group processing (GP) routine to process the nodes in a group #(g) according to the parameter "group processing scheme";

wherein the GP routine refers to a routine of transmitting ready packets of the nodes in the group #(g).

10. **(Original)** The method as claimed in claim 9, wherein the GP routine is a 2-way handshaking, 4-way handshaking or polling scheme.

11. **(Original)** The method as claimed in claim 9, wherein the step of transmitting the packets of the MAC nodes further comprises:

processing a group #(g+1) when there is no packet being transmitted and g+1 isn't larger than a preset value G.

12. **(Original)** The method as claimed in claim 9, wherein the step of transmitting the packets of the MAC nodes further comprises:

starting a new cycle when there is no packet being transmitted and  $g+1$  is larger than a preset value  $G$ .

13. **(Original)** The method as claimed in claim 9, wherein the step of transmitting the packets of the MAC nodes further comprises:

designating nodes in a group  $\#(g+1)$  to group  $\#(g+t)$  as DN when a packet is transmitted, the parameter "access method" is "free" and a CATE routine is applied;

wherein the variable  $t$  refers to a packet transmitting duration.

14. **(Original)** The method as claimed in claim 9 or 13, wherein the step of transmitting the packets of the MAC nodes further comprises:

removing a successfully transmitted packet from a buffer of a successful node when the transmission is successful.

15. **(Original)** The method as claimed in claim 9 or 13, wherein the step of transmitting the packets of the MAC nodes comprises:

designating collided nodes as CN when the transmission is not successful.

16. **(Original)** The method as claimed in claim 14, wherein the step of transmitting the packets of the MAC nodes further comprises:

marking losers in CN when the parameter "completeness" is negative and "memoryless after lost" is positive;

wherein the losers in CN refer to nodes in CN that fail to transmit.

17. **(Original)** The method as claimed in claim 14, wherein the step of transmitting the packets of the MAC nodes comprises:

marking losers in CN or DN when the parameter "completeness" and "memoryless after lost" are both negative;

wherein the losers in CN or DN refer to nodes in CN or DN that fail to transmit.

18. **(Original)** The method as claimed in claim 15, wherein the step of transmitting the packets of the MAC nodes further comprises:

marking losers in CN when the parameter "completeness" is negative and "memoryless after lost" is positive;

wherein the losers in CN refer to nodes in CN that fail to transmit.

19. **(Original)** The method as claimed in claim 15, wherein the step of transmitting the packets of the MAC nodes comprises:

marking losers in CN or DN when the parameter "completeness" and "memoryless after lost" are both negative;

wherein the losers in CN or DN refer to nodes in CN or DN that fail to transmit.

20. **(Currently amended)** An apparatus for unifying MAC protocols comprising:

a unified MAC processor;

a memory having a unified MAC program; and

a transmitter/receiver circuit;

wherein the unified MAC program is used to control the operation of the unified MAC processor and the unified MAC processor operates as a specific MAC protocol after the unified MAC program is configured by a specific set of parameters; thereby, the apparatus transmitting its packet via the transmitter/receiver circuit thereon in accordance with the configured MAC protocol[.],

wherein the parameters comprise slot time, access method, and group process scheme.

21. **(Currently amended)** The apparatus claimed in the claim 20, wherein the parameters further comprise ~~slot time, access method,~~ completeness, memoryless after lost, report grouping result, ~~group process scheme,~~ type of collision anticipation tree expansion (CATE) and type of collision resolution tree expansion (CRTE).

22. **(Original)** The apparatus claimed in the claim 20, wherein the unified MAC program comprises a CATE routine for splitting nodes in DN into different groups so as to avoid collisions.

23. **(Original)** The apparatus claimed in the claim 20, wherein the unified MAC program comprises a CRTE routine for splitting nodes in CN into different groups so as to resolve collisions.

24. **(Original)** The apparatus claimed in the claim 20, wherein the memory further has a packet buffer for saving new arrival packets from upper layer protocol or packets received from physical layer.

25. **(Original)** A method for setting parameters of a unified MAC node, comprising:



observing a protocol used between MAC nodes and formats of packets received from a physical multi-access medium;

recognizing a type of CATE or CRTE of the protocol used between the MAC nodes by using observed results;

selecting a group processing approach by using the observed results; determining conditions to renew a cycle by using the observed results; and

defining the parameters by using the observed results to configure the unified MAC node.

26. **(Original)** The method as claimed in claim 25, wherein the group processing approach is 2-way handshaking, 4-way handshaking or polling.

27. **(Original)** The method as claimed in claim 25, wherein the parameters comprise slot time, access method, completeness, memoryless after lost, report grouping result, group process scheme, CATE and CRTE.